## EXHIBIT A



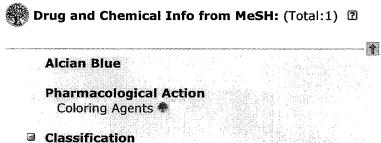
24891421)

# Alcian blue 8gx - Substance Summary (SID:

A copper-containing dye used as a gelling agent for lubricants, for staining of bacteria and for the dyeing of histiocytes and fibroblasts in vivo.

#### Table of Contents

- Drug and Chemical Info
- Data Source
- Synonyms
- Properties
- Descriptors
- Substance Info
- Exports



Heterocyclic Compounds
Heterocyclic Compounds, 2-Ring
Indoles
Alcian Blue

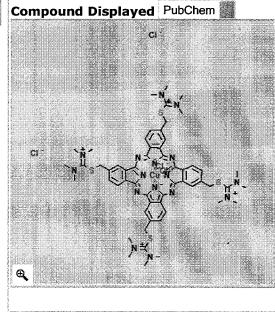
PubMed Choose by Subheadings:

analogs and derivatives	analysis	blood
chemistry	diagnostic use	economics
history	isolation and purification	metabolism
pharmacokinetics	pharmacology	radiation effects
standards		

PubMed MeSH Keyword Summary 🛭



**Depositor:** Sigma-Aldrich **External ID:** A9186\_SIGMA



Compound ID 16211091	<b>2</b>
Molecular Weight 1298.86432 [g/mol]	2
Molecular C <sub>56</sub> H <sub>68</sub> Cl <sub>4</sub> CuN <sub>16</sub> S <sub>4</sub>	2
H-Bond Donor 0	2
H-Bond Acceptor 16	$\square$

∃ Links

Chemical Structure Search 2





Sort: Weight

Alcian blue 8gx 🏶 Ingrain Blue 1 ALCIAN BLUE 🏶 A9186\_SIGMA

## **Properties Computed from Structure: 2**

Mic.	
Molecular Weight	1298.86432 [g/mol]
Molecular Formula	$C_{56}H_{68}Cl_{4}CuN_{16}S_{4}$
H-Bond Donor	0
H-Bond Acceptor	16
Rotatable Bond Count	16
Exact Mass	1297.271631
MonoIsotopic Mass	1295.274581
Topological Polar Surface Area	101
Heavy Atom Count	81
Formal Charge	0
Complexity	2270
Isotope Atom Count	0
Defined Atom StereoCenter Count	0
Undefined Atom StereoCenter Count	0
Defined Bond StereoCenter Count	0
Undefined Bond StereoCenter Count	0
Covalently-Bonded Unit Count	6

### Descriptors Computed from Structure: 🗵

Canonical SMILES: CN(C)C(=[N+](C)C)SCC1=CC2=C (C=C1)C3=NC4=NC(=NC5=C6C=C(C=CC6=C([N-]5))N=C7C8=C(C=CC(=C8)CSC(=[N+](C)C)N(C)C)C(=N7)N=C2[N-]3)CSC(=[N+](C)C)N(C)C)C9=C4C=C(C=C9)CSC(=[N+](C)C)N(C)C.[CI-].[CI-].[CI-].[CI-].[CI-].[Cu+2]**InChI:** InChI=1/C56H68N16S4.4ClH.Cu/c1-65(2)53(66 (3)4)73-29-33-17-21-37-41(25-33)49-57-45(37)62-50-43-27-35(31-75-55(69(9)10)70(11)12)19-23-39 (43)47(59-50)64-52-44-28-36(32-76-56(71(13)14)72 (15)16)20-24-40(44)48(60-52)63-51-42-26-34(18-22-38(42)46(58-51)61-49)30-74-54(67(5)6)68(7) 8;;;;;/h17-28H,29-32H2,1-16H3;4\*1H;/q+2;;;;;+2/p-4/fC56H68N16S4.4Cl.Cu/h;4\*1h;/qm;4\*-1;m 2



**SID:** 24891421 🖸 🗷 Deposit Date: 2007-07-16 Modify Date: 2008-01-21

CID: 16211091 ☑ 3

Create Date: 2007-07-12
Parent CID: 6073940 2
Unique Components: 3 Links

Related Substances: 2

Same: 4 Links

Similar Substances: 16 Links 2

ASN1	Display	Display
Save	Save	Save

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### A3157 Alcian Blue 8GX

Sigma certified by the Biological Stain Commission

$$R = CH_2 - S \qquad CH_3 \qquad CI$$

$$R = CH_2 - S \qquad N^+ \qquad CH_3$$

$$R = CH_3 \qquad CI$$

$$R = CH_3 \qquad CI$$

$$R = CH_3 \qquad CI$$

唇<u>Print</u>

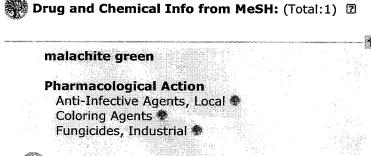


## **Grenoble Green - Substance Summary** (SID: 49854446)

RN given refers to parent cpd; structure

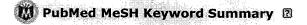
#### **■** Table of Contents

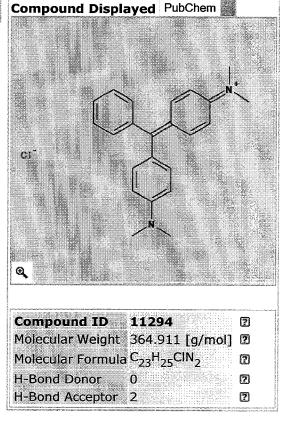
- Drug and Chemical Info
- Data Source
- Synonyms
- Properties
- Descriptors
- Substance Info
- Exports





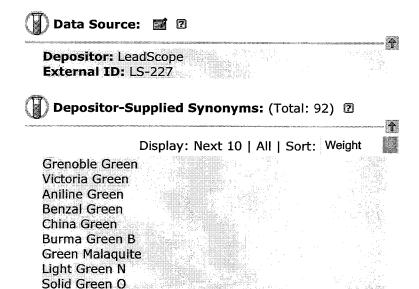
Diamond Green Bx





■ Links

Chemical Structure Search 2



## **Properties Computed from Structure:** 2

Molecular Weight	364.911 [g/mol]
Molecular Formula	C <sub>23</sub> H <sub>25</sub> CIN <sub>2</sub>
H-Bond Donor	0
H-Bond Acceptor	2
Rotatable Bond Count	3
Exact Mass	364.170627
MonoIsotopic Mass	364.170627
Topological Polar Surface Area	6.3
Heavy Atom Count	26
Formal Charge	0
Complexity	516
Isotope Atom Count	0
Defined Atom StereoCenter Cou	ınt 0
Undefined Atom StereoCenter (	Count 0
Defined Bond StereoCenter Cou	int 0
Undefined Bond StereoCenter C	ount 0
Covalently-Bonded Unit Count	2

### **Descriptors Computed from Structure: 2**

IUPAC Name: [4-[(4-dimethylaminophenyl)phenylmethylidene]-1-cyclohexa-2,5-dienylidene]-

dimethylazanium chloride

Canonical SMILES: CN(C)C1=CC=C(C=C1)C (=C2C=CC(=[N+](C)C)C=C2)C3=CC=CC=C3.[CI-]**InChI:** InChI=1/C23H25N2.ClH/c1-24(2)21-14-10-19 (11-15-21)23(18-8-6-5-7-9-18)20-12-16-22(17-13-20) 25(3)4;/h5-17H,1-4H3;1H/q+1;/p-1/fC23H25N2.Cl/h;1h/qm;-1

**Substance Info:** 2

**SID:** 49854446 ② ■

Deposit Date: 2008-07-09 Modify Date: 2008-07-09

CID: 11294 ② □

Create Date: 2005-07-19 Parent CID: 11295 Unique Components: 2 Links

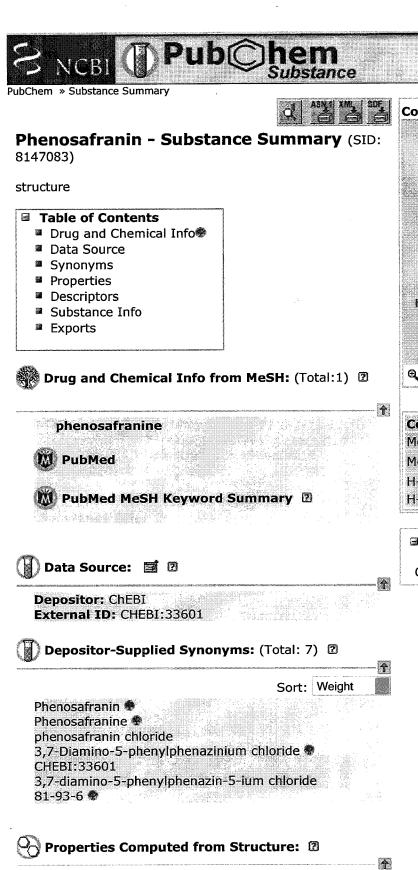
Related Substances: 2

Same: 10 Links

Same, Connectivity: 15 Links

Similar Substances: 802 Links 2





Molecular Weight

Molecular Formula

H-Bond Donor H-Bond Acceptor

Compound Displayed	PubChem
ci ci	
H J	
н" \	Y Y
N.	
<b>Q</b> Triblished	
Ranna (1727)	19.28.28.28.28.28.28.28.28.28.28.28.28.28.
Compound ID 657 Molecular Weight 322.	
Molecular Formula C <sub>18</sub> F	SOURCE CONTRACTOR PROPERTY OF THE PARTY OF T
H-Bond Donor 2 H-Bond Acceptor 4	2
ii bolle Acceptor #	
<b>■ Links</b>	

PubChem Substance

PubMed | Entrez | Structure | PubChem | Help

2

322.7915 [g/mol] C<sub>18</sub>H<sub>15</sub>ClN<sub>4</sub>



## **Toluylene blue - Substance Summary** (SID: 49867264)

### ☐ Table of Contents

- Data Source
- Synonyms
- Properties
- Descriptors
- Substance Info
- Exports



**Depositor:** LeadScope **External ID:** LS-17300

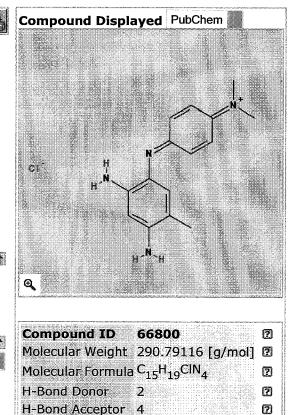
Depositor-Supplied Synonyms: (Total: 13) 2

Display: Next 3 | All | Sort: Weight

Toluylene blue
Toluylene Blue (VAN)
Modr Toluylenova [Czech]
Toluylene Blue (biological stain)
EINECS 202-569-2
NSC 11226
C.I. 49410

LS-17300 Chloride of diamino-methyl-phenyl-dimethyl-pbenzoquinone-diimine

(4-((4,6-Diamino-m-tolyl)imino)-2,5-cyclohexadien-1-ylidene)dimethylammonium chloride



#### ■ Links

Chemical Structure Search 2

## Properties Computed from Structure: 🗵

Molecular Weight	290.79116	
Molecular Weight	[g/mol]	
Molecular Formula	C <sub>15</sub> H <sub>19</sub> CIN <sub>4</sub>	
H-Bond Donor	2	
H-Bond Acceptor	4	
Rotatable Bond Count	T.	
Exact Mass	290.129824	
MonoIsotopic Mass	290.129824	
Topological Polar Surface Area	67.4	
Heavy Atom Count	20	
Formal Charge	0	
Complexity	437	
Isotope Atom Count	0	

Defined Atom StereoCenter Count
Undefined Atom StereoCenter
Count
Defined Bond StereoCenter Count
Undefined Bond StereoCenter Count
Covalently-Bonded Unit Count
2

## 69

### Descriptors Computed from Structure: 🛭

**IUPAC Name:** [4-(2,4-diamino-5-methylphenyl)imino-1-cyclohexa-2,5-dienylidene]-dimethylazanium chloride **Canonical SMILES:** CC1=CC(=C(C=C1N)N) N=C2C=CC(=[N+](C)C)C=C2.[Cl-]

InChI: InChI=1/C15H18N4.ClH/c1-10-8-15(14(17)9-13(10)16)18-11-4-6-12(7-5-11)19(2)3;/h4-9H,1-3H3, (H3,16,17);1H/fC15H19N4.Cl/h16-17H2;1h/q+1;-1 2

### Substance Info: 2

SID: 49867264 🗷 🗎

Deposit Date: 2008-07-09 Modify Date: 2008-07-09

CID: 66800 ② □

Create Date: 2005-08-08
Parent CID: 66801 2
Unique Components: 2 Links

Related Substances: 2

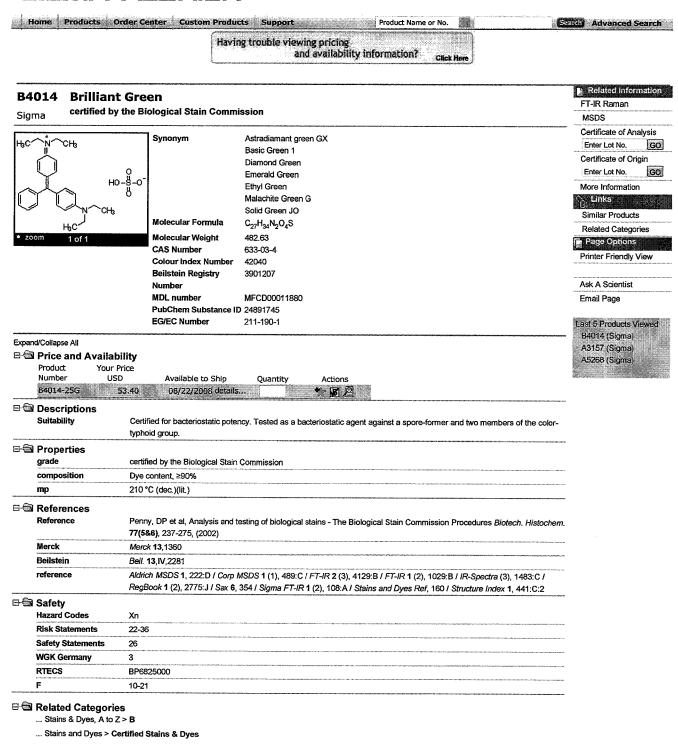
Same: 6 Links

Similar Substances: 14 Links 2



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## **B4014 Brilliant Green**

Sigma certified by the Biological Stain Commission



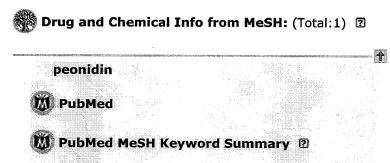
## ASM XML SDF

## **Peonidin - Substance Summary** (SID: 7993267)

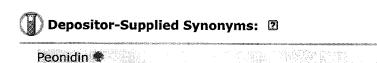
a COX-2 inhibitor with protein kinase inhibitory and phytogenic antineoplastic activities; RN given for chloride salt

#### Table of Contents

- Drug and Chemical Info
- Data Source
- Synonyms
- Properties
- Descriptors
- Substance Info
- Comments
- Exports

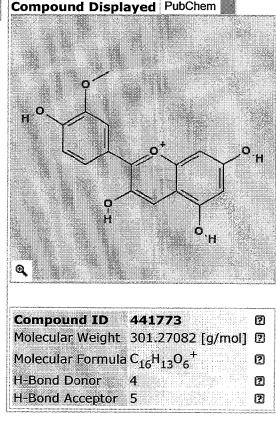






## Properties Computed from Structure: 2

••••	www.
	**
Molecular Weight Molecular Formula	301.27082 [g/mol] C <sub>16</sub> H <sub>13</sub> O <sub>6</sub> +
H-Bond Donor	4
H-Bond Acceptor	5
Rotatable Bond Count	2
Tautomer Count	183



### **∃** Links

Chemical Structure Search 2

Exact Mass	301.071213
MonoIsotopic Mass	301.071213
Topological Polar Surface Area	91.2
Heavy Atom Count	22
Formal Charge	1
Complexity	378
Isotope Atom Count	0
Defined Atom StereoCenter Count	: 0
Undefined Atom StereoCenter Count	0.21
Defined Bond StereoCenter Count	0
Undefined Bond StereoCenter Cou	int 0
Covalently-Bonded Unit Count	1

## Descriptors Computed from Structure: 2

IUPAC Name: 2-(4-hydroxy-3-methoxyphenyl)

chromenylium-3,5,7-triol

Canonical SMILES: COC1=C(C=CC(=C1)C2=C(C=C3C

(=CC(=CC3=[O+]2)0)0)0)0

InChI: InChI=1/C16H12O6/c1-21-15-4-8(2-3-11(15) 18)16-13(20)7-10-12(19)5-9(17)6-14(10)22-16/h2-7H,1H3,(H3-,17,18,19,20)/p+1/fC16H13O6/h17-

20H/q+1 🗹

## Substance Info: 🛭

SID: 7993267 🔞 🗷

Deposit Date: 2006-01-18 Modify Date: 2006-01-18

CID: 441773 🗷 🗷

Create Date: 2005-06-24

Related Substances: 2

Same: 6 Links

Similar Substances: 4950 Links 2

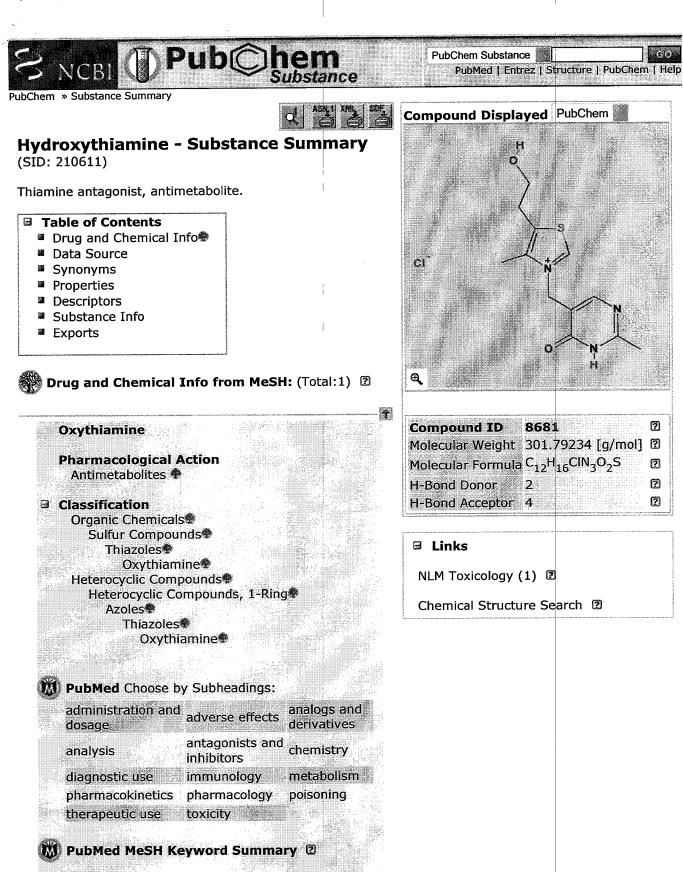
### Depositor-Supplied Comments: 2

Traditional Chinese Medicine Database Collection from Nice Data and CambridgeSoft



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**SID:** 210611 ☑ 🗐

Deposit Date: 2005-08-08 Modify Date: 2006-04-28

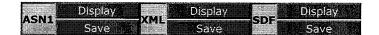
CID: 8681 🗵 🖃

Create Date: 2005-08-08
Parent CID: 8682 ②
Unique Components: 2 Links

Related Substances: 2

Same: 7 Links

Similar Substances: 36 Links 2



PubMed | Entrez | Structure | PubChem | Help

PubChem » Compound Summary

### **Tiemonium - Compound Summary (CID:** 5473)

#### **■ Table of Contents**

- Synonyms
- Properties
- Descriptors
- Compound Info
- Substance Info
  - Category
- Exports



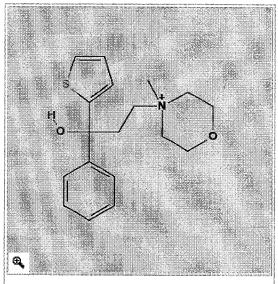
Depositor-Supplied Synonyms: (Total: 6) 🛭

Sort: Weight

Tiemonium Tiemonum tiemonium iodide EINECS 228-380-5 4-(3-Hydroxy-3-phenyl-3-(2-thienyl)propyl)-4methylmorpholine 6252-92-2

## Properties Computed from Structure: 🛭

Molecular Weight	318.45366 [g/mol]
Molecular Formula	C <sub>18</sub> H <sub>24</sub> NO <sub>2</sub> S <sup>+</sup>
H-Bond Donor	1
H-Bond Acceptor	2
Rotatable Bond Count	5
Exact Mass	318.152775
MonoIsotopic Mass	318.152775
Topological Polar Surface Area	29.5
Heavy Atom Count	22
Formal Charge	1
Complexity	353
Isotope Atom Count	0
Defined Atom StereoCenter Count	0
Undefined Atom StereoCenter Count	1
Defined Bond StereoCenter Count	0
Undefined Bond StereoCenter Count	t0
Covalently-Bonded Unit Count	1

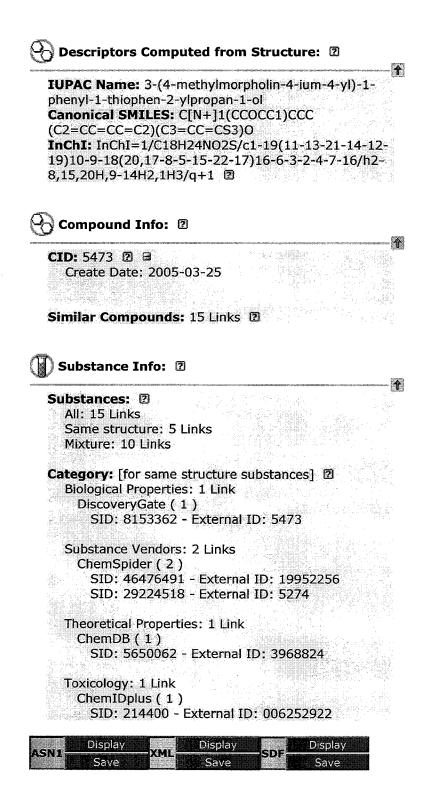


ADDRESS	
Compound ID 5473	2
Molecular Weight 318.45366 [g/mol]	0
Molecular Formula C <sub>18</sub> H <sub>24</sub> NO <sub>2</sub> S <sup>+</sup>	7
H-Bond Donor 1	2
H-Bond Acceptor 2	<b>2</b>

### ■ Links

NLM Toxicology Link 2

Chemical Structure Search 2



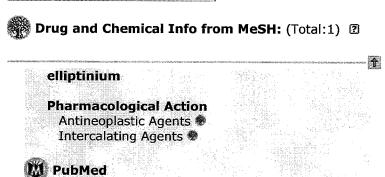


# **Celiptium - Substance Summary** (SID: 183221)

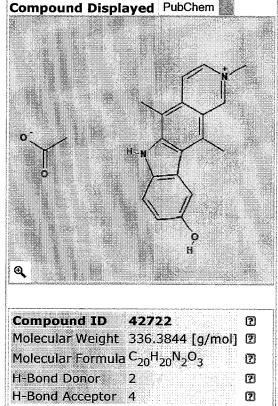
synthetic ellipticine deriv; RN given refers to parent cpd; structure given in first source

#### **■** Table of Contents

- Drug and Chemical Info
- Data Source
- Synonyms
- Properties
- Descriptors
- Substance Info
- Exports



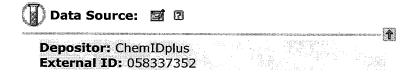




#### ■ Links

NLM Toxicology (1) 2

Chemical Structure Search 2



Depositor-Supplied Synonyms: (Total: 15) 2

Display: Next 5 | All | Sort: Weight
Celiptium 
Elliptinium 
ELLIPTINIUM ACETATE 
Ellipticine acetomethylate
Elliptinii acetas [INN-Latin]
Elliptinium acetate [BAN:INN]
Acetate d'elliptinium [INN-French]
Acetato de eliptinio [INN-Spanish]

EINECS 261-216-0 N2-Methylhydroxyellipticinium acetate

## Properties Computed from Structure: 2

Molecular Weight	336.3844 [g/mol]
Molecular Formula	$C_{20}H_{20}N_2O_3$
H-Bond Donor	2
H-Bond Acceptor	4
Rotatable Bond Count	0
Tautomer Count	10
Exact Mass	336.147393
MonoIsotopic Mass	336.147393
Topological Polar Surface Area	80
Heavy Atom Count	25
Formal Charge	0
Complexity	426
Isotope Atom Count	0
Defined Atom StereoCenter Count	0
Undefined Atom StereoCenter Cou	nt 0
Defined Bond StereoCenter Count	0
Undefined Bond StereoCenter Coul	nt 0
Covalently-Bonded Unit Count	2

## Descriptors Computed from Structure: 2

**IUPAC Name:** 2,5,11-trimethyl-6H-pyrido[3,4-h]

carbazol-2-ium-9-ol acetate

Canonical SMILES: CC1=C2C(=C(C3=C1C=C[N+] (=C3)C)C)C4=C(N2)C=CC(=C4)O.CC(=O)[O-] InChI: InChI=1/C18H16N2O.C2H4O2/c1-10-15-9-20 (3)7-6-13(15)11(2)18-17(10)14-8-12(21)4-5-16(14)

19-18;1-2(3)4/h4-9,21H,1-3H3;1H3,

(H,3,4)/fC18H17N2O.C2H3O2/h19H;/q+1;-1 ☑

### Substance Info: 2

SID: 183221 ② ■

Deposit Date: 2005-08-08 Modify Date: 2006-04-28

CID: 42722 🗵 🗷

Create Date: 2005-08-08
Parent CID: 42723 ②
Unique Components: 2 Links

Related Substances: 2

Same: 7 Links

Similar Substances: 331 Links 2

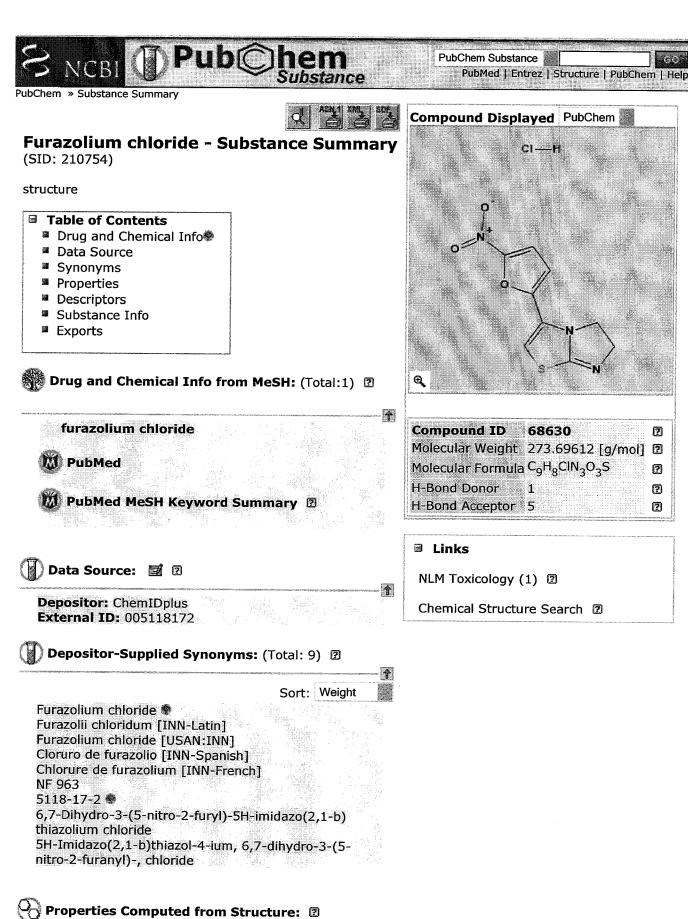


0

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2

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273.69612

Molecular Weight	[g/mol]
Molecular Formula	C <sub>9</sub> H <sub>8</sub> CIN <sub>3</sub> O <sub>3</sub> S
H-Bond Donor	1
H-Bond Acceptor	5
Rotatable Bond Count	1
Exact Mass	272.99749
MonoIsotopic Mass	272.99749
Topological Polar Surface Area	71.9
Heavy Atom Count	17
Formal Charge	0
Complexity	390
Isotope Atom Count	0
Defined Atom StereoCenter Count	0
Undefined Atom StereoCenter Count	0
Defined Bond StereoCenter Count	0
Undefined Bond StereoCenter Coun	t0
Covalently-Bonded Unit Count	2

## 

IUPAC Name: 3-(5-nitrofuran-2-yl)-5,6dihydroimidazo[2,1-b][1,3]thiazole hydrochloride Canonical SMILES: C1CN2C(=CSC2=N1)C3=CC=C (O3)[N+](=O)[O-].CIInChI: InChI=1/C9H7N3O3S.CIH/c13-12(14)8-2-1-7

(15-8)6-5-16-9-10-3-4-11(6)9;/h1-2,5H,3-4H2;1H 2

## Substance Info: 2

**SID:** 210754 ② ■

Deposit Date: 2005-08-08 Modify Date: 2006-04-28

CID: 68630 ② □

Create Date: 2005-08-08 Parent CID: 68631 2 Unique Components: 2 Links

Related Substances: 2

Same: 4 Links

Similar Substances: 5 Links 2

